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Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<i>Complete if Known</i>	
				Application Number	09/931,469
				Filing Date	2001-08-16
				First Named Inventor	LAROIA; Rajiv,
				Art Unit	2462
				Examiner Name	JUNTIMA, Nittaya
Sheet	1	of	14	Attorney Docket No: 060542	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	001	US4747137	05-24-1988	MATSUNAGA; Akira	
	002	US5790537	08-04-1998	YOON; Young C., et al.	
	003	US5812938	09-22-1998	GILHOUSEN; Klein S., et al.	
	004	US5870393	02-09-1999	YANO; Takashi, et al.	
	005	US5999826	12-07-1999	WHINNETT; Nicholas	
	006	US6067315	05-23-2000	SANDIN; Tomas	
	007	US6075797	06-13-2000	THOMAS; Nicholas A.	
	008	US6088345	07-11-2000	SAKODA; Kazuyuki, et al.	
	009	US6141317	10-31-2000	MARCHOK; Daniel J., et al.	
	010	US6154484	11-28-2000	LEE; Chong U., et al.	
	011	US6175650	01-16-2001	SINDHU; Pradeep S., et al.	
	012	US6176550	01-23-2001	LAMART; Michel A., et al.	
	013	US6249683	06-19-2001	LUNDBY; Stein A., et al.	
	014	US6271946	08-07-2001	CHANG; Gee-Kung, et al.	
	015	US6449246	09-10-2002	BARTON; Melbourne, et al.	
	016	US6477317	11-05-2002	ITOKAWA; Osamu	
	017	US6478422	11-12-2002	HANSEN; Richard Arvid	
	018	US6487243	11-26-2002	HWANG; Dongming, et al.	
	019	US6501810	12-31-2002	KARIM; Mohammad Rez, et al.	
	020	US6507601	01-14-2003	PARSA; Kourosh, et al.	

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Sheet	2	of	14	Attorney Docket No: 060542	

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		Number-Kind Code <sup>2</sup> (if known)			
	021	US6539213	03-25-2003	RICHARDS; James L., et al.	
	022	US6614857	09-02-2003	BUEHRER; R. Michael, et al.	
	023	US6658258	12-02-2003	CHEN; Byron Hua, et al.	
	024	US6674787	01-06-2004	DICK; Stephen G., et al.	
	025	US6785341	08-31-2004	WALTON; Jay R., et al.	
	026	US6813284	11-02-2004	VAYANOS; Alkinoos, et al.	
	027	US6821535	11-23-2004	NURMI; Juha, et al.	
	028	US6828293	12-07-2004	HAZENKAMP; Menno, et al.	
	029	US6829293	12-07-2004	JONES; William W., et al.	
	030	US6842487	01-11-2005	LARSSON; Peter	
	031	US6917602	07-12-2005	TOSKALA; Antti, et al.	
	032	US6917821	07-12-2005	KADOUS; Tamer, et al.	
	033	US6985434	01-10-2006	WU; Shiquan, et al.	
	034	US6985453	01-10-2006	LUNDBY; Stein A., et al.	
	035	US7006848	02-28-2006	LING; Fuyun, et al.	
	036	US7050402	05-23-2006	SCHMIDL; Timothy M., et al.	
	037	US7050405	05-23-2006	ATTAR; Rashid Ahmed, et al.	
	038	US7095708	08-22-2006	ALAMOUTI; Siavash, et al.	
	039	US7106319	09-12-2006	ISHIYAMA; Hisanobu	

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Sheet	3	of	14	Attorney Docket No: 060542	

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	040	US7157351	01-02-2007	CHENG; Chung-Long, et al.	
	041	US7170937	01-30-2007	ZHOU; Minhua	
	042	US7177351	02-13-2007	KADOUS; Tamer	
	043	US7181170	02-20-2007	LOVE; Robert T., et al.	
	044	US7184713	02-27-2007	KADOUS; Tamer, et al.	
	045	US7233634	06-19-2007	HASELL SWEATMAN; Catherine, et al.	
	046	US7260153	08-21-2007	NISSANI; et al.	
	047	US7292651	11-06-2007	LI; Ye	
	048	US7356073	04-08-2008	HEIKKILA; Markku J.	
	049	US7359327	04-15-2008	OSHIBA; Shigeomi	
	050	US7403748	07-22-2008	KESKITALO; Ilkka, et al.	
	051	US7443835	10-28-2008	LAKSHMI NARAYANAN; Ram Gopal, et al.	
	052	US7450548	11-11-2008	HAUSTEIN; Thomas, et al.	
	053	US7508748	03-24-2009	KADOUS; Tamer	
	054	US20020090004	07-11-2002	RINCHIUSO; Joseph	
	055	US20020159422	10-31-2002	LI; Xiaodong, et al.	
	056	US20030043732	03-06-2003	WALTON; Jay R., et al.	
	057	US20030072395	04-17-2003	JIA; Ming, et al.	
	058	US20030076890	04-24-2003	HOCHWALD; Bertrand Martyn, et al.	
	059	US20030103520	06-05-2003	CHEN; Lan, et al.	

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Sheet	4	of	14	Attorney Docket No: 060542	

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	060	US20030112745	06-19-2003	ZHUANG; Xiangyang, et al.	
	061	US20030157900	08-21-2003	GAAL; Peter, et al.	
	062	US20030228850	12-11-2003	HWANG; In-Tae	
	063	US20040002364	01-01-2004	TRIKKONEN; Olav, et al.	
	064	US20040058687	03-25-2004	KIM; Young-Bum, et al.	
	065	US20040087325	05-06-2004	CHENG; Fang-Chen, et al.	
	066	US20040097215	05-20-2004	ABE; Katsuaki, et al.	
	067	US20040114618	06-17-2004	TONG; Wen, et al.	
	068	US20040120411	06-24-2004	WALTON; Jay Rodney, et al.	
	069	US20040179627	09-16-2004	KETCHUM; John W., et al.	
	070	US20040202257	10-14-2004	MEHTA; Neelesh B., et al.	
	071	US20040240419	12-02-2004	ABRISHAMKAR; Farrokh, et al.	
	072	US20040252529	12-16-2004	HUBER; Laszlo, et al.	
	073	US20040264507	12-30-2004	CHO; Young-Kwon, et al.	
	074	US20050002440	01-06-2005	ALAMOUTI; Siavash, et al.	
	075	US20050003782	01-06-2005	WINTZELL; Ola	
	076	US20050008091	01-13-2005	BOUTROS; Joseph, et al.	
	077	US20050041618	02-24-2005	WEI; Yongbin, et al.	
	078	US20050053081	03-10-2005	ANDERSSON; Christoffer, et al.	
	079	US20050135498	06-23-2005	YEE; Mong Suan	

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Sheet	5	of	14	Attorney Docket No: 060542	

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	080	US20050180311	08-18-2005	WANG; Haifeng, et al.	
	081	US20050195886	09-08-2005	LAMPINEN; Marko, et al.	
	082	US20050207367	09-22-2005	ONGGOSANUSI; Eko N., et al.	
	083	US20050249266	11-10-2005	BROWN; Colin, et al.	
	084	US20050254467	11-17-2005	LI; Don, et al.	
	085	US20050277423	12-15-2005	SANDHU; Sumeet, et al.	
	086	US20050282500	12-22-2005	WANG; Yi-Pin Eric, et al.	
	087	US20060018336	01-26-2006	SUTIVONG; Arak, et al.	
	088	US20060057958	03-16-2006	NGO; Chiu, et al.	
	089	US20060104333	05-18-2006	RAINBOLT; Bradley J., et al.	
	090	US20060114858	06-01-2006	WALTON; Jay Rodney, et al.	
	091	US20060120469	06-08-2006	MALTSEV; Alexander A., et al.	
	092	US20060133269	06-22-2006	PRAKASH; Rajat, et al.	
	093	US20060133455	06-22-2006	AGRAWAL; Avneesh, et al.	
	094	US20060156199	07-13-2006	PALANKI; Ravi ; et al.	
	095	US20060203708	09-14-2006	SAMPATH; Hemanth, et al.	
	096	US20060203794	09-14-2006	SAMPATH; Hemanth, et al.	
	097	US20060203891	09-14-2006	SAMPATH; Hemanth, et al.	
	098	US20060218459	09-28-2006	HEDBERG; David	

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Sheet	6	of	14	Attorney Docket No: 060542	

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	099	US20060285485	12-21-2006	AGRAWAL; Avneesh, et al.	
	100	US20060285515	12-21-2006	JULIAN; David Jonathan, et al.	
	101	US20070005749	01-04-2007	SAMPATH; Hemanth	
	102	US20070019596	01-25-2007	BARRIAC; Gwendolyn D., et al.	
	103	US20070071147	03-29-2007	SAMPATH; Hemanth, et al.	
	104	US20090110103	04-30-2009	MALTSEV; Alexander A., et al.	
	105	US20090287977	11-19-2009	CHANG; Li Fung, et al.	

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	106	CA2348137	11-17-2001	MATSUSHITA ELECTRIC IND CO LTD [JP]		<input checked="" type="checkbox"/>
	107	CA2477536	09-04-2003	QUALCOMM INC [US]		<input checked="" type="checkbox"/>
	108	CA2540688	05-12-2005	FLARION TECHNOLOGIES INC [US]		<input checked="" type="checkbox"/>
	109	CL14892006	05-18-2007	QUALCOMM INCORPORATED.		<input checked="" type="checkbox"/>
	110	CL14902006	05-18-2007	QUALCOMM INCORPORATED.		<input checked="" type="checkbox"/>
	111	CL14922006	04-20-2007	QUALCOMM		<input checked="" type="checkbox"/>

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				INCORPORATED.		
	112	CL15212006	03-30-2007	QUALCOMM INCORPORATED.		<input checked="" type="checkbox"/>
	113	CL22892004	09-09-2005	QUALCOMM INCORPORATED.		<input checked="" type="checkbox"/>
	114	CL27102004	08-26-2005	QUALCOMM INCORPORATED.		<input checked="" type="checkbox"/>
	115	CL29932005	05-19-2006	QUALCOMM INCORPORATED.		<input checked="" type="checkbox"/>
	116	CL30862004	10-28-2005	QUALCOMM INCORPORATED.		<input checked="" type="checkbox"/>
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	118	CN1386344	12-18-2002	MITSUBISHI ELECTRIC CORP [JP]		<input checked="" type="checkbox"/>
	119	CN1424835	06-18-2003	NTT DOCOMO INC [JP]		<input checked="" type="checkbox"/>
	120	CN1467938A	01-14-2004	HUAWEI TECHNOLOGIES CO., LTD.		<input checked="" type="checkbox"/>
	121	CN1487755A	04-07-2004	SIEMENS AG.		<input checked="" type="checkbox"/>
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	123	CN1647436A	07-27-2005	INTEL CORP.		<input checked="" type="checkbox"/>
	124	DE10254384A1	06-09-2004	FRAUNHOFER-GESELLSCHAFT ZUR FÖRDERUNG DER ANGEWANDTEN FORSCHUNG E.V.		<input checked="" type="checkbox"/>
	125	EP0488976A2	06-03-1992	ERICSSON TELEFON AB		<input type="checkbox"/>

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				Filing Date	2001-08-16
				First Named Inventor	LAROIA; Rajiv,
				Art Unit	2462
				Examiner Name	JUNTIMA, Nittaya
Sheet	8	of	14	Attorney Docket No: 060542	

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Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
				L M [SE]		
	126	EP0568291A2	11-03-1993	BRITISH AEROSPACE [GB]		<input type="checkbox"/>
	127	EP1255369A1	11-06-2002	ERICSSON TELEFON AB L M [SE]		<input type="checkbox"/>
	128	EP1267513A2	12-18-2002	UNIQUE BROADBAND SYSTEMS INC [CA]		<input type="checkbox"/>
	129	FR2584884A1	01-16-1987	TRT TELECOM RADIO ELECTR.		<input checked="" type="checkbox"/>
	130	JP10117162	05-06-1998	MOTOROLA LTD.		<input checked="" type="checkbox"/>
	131	JP2001016644A2	01-19-2001	KDD CORP.		<input checked="" type="checkbox"/>
	132	JP2003101515	04-04-2003	SONY CORP.		<input checked="" type="checkbox"/>
	133	JP2003174426	06-20-2003	JAPAN TELECOM CO LTD.		<input checked="" type="checkbox"/>
	134	JP200369472	03-07-2003	MATSUSHITA ELECTRIC IND CO LTD.		<input checked="" type="checkbox"/>
	135	JP2004023716	01-22-2004	MATSUSHITA ELECTRIC.		<input checked="" type="checkbox"/>
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	137	JP2004096142A	03-25-2004	HITACHI KOKUSAI ELECTRIC INC.		<input checked="" type="checkbox"/>
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	139	JP2005197772	07-21-2005	TOSHIBA CORP.		<input checked="" type="checkbox"/>
	140	JP2005203961	07-28-2005	ADVANCED TELECOMMUNICATION RESEARCH INSTITUTE INTERNATIONAL.		<input checked="" type="checkbox"/>

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				Art Unit	2462
				Examiner Name	JUNTIMA, Nittaya
Sheet	9	of	14	Attorney Docket No: 060542	

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		Country Code <sup>3</sup> - Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
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	142	JP2005521358	07-14-2005	INTEL CORP [US]		<input checked="" type="checkbox"/>
	143	KR100606099	07-31-2006	SAMSUNG ELECTRONICS CO., LTD.		<input checked="" type="checkbox"/>
	144	KR20000060428	10-16-2000	SAMSUNG ELECTRONICS CO., LTD.		<input checked="" type="checkbox"/>
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	146	KR200471652	08-12-2004	NTT DOCOMO INC.		<input checked="" type="checkbox"/>
	147	RU2162275C2	01-20-2001	SAMSUNG ELECTRONICS CO LTD [KR]		<input checked="" type="checkbox"/>
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	152	RU2292655	01-27-2007	QUALCOMM INCORPORATED.		<input checked="" type="checkbox"/>
	153	RU95121152	12-20-1997	AT & T IPM CORP.		<input checked="" type="checkbox"/>

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Sheet	10	of	14	Attorney Docket No: 060542	

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	154	SU1320883	06-30-1987	KOZUBOV VYACHESLAV N [SU]		<input checked="" type="checkbox"/>
	155	TW200302642	08-01-2003	QUALCOMM INCORPORATED.		<input checked="" type="checkbox"/>
	156	TW510132	11-11-2002	HARRIS CORPORATION.		<input checked="" type="checkbox"/>
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	158	WO01045300	06-21-2001	IOSPAN WIRELESS INC.,US.		<input type="checkbox"/>
	159	WO0182543A2	11-01-2001	ATHEROS COMM INC [US]		<input type="checkbox"/>
	160	WO02060138A2	08-01-2002	QUALCOMM INC [US]		<input type="checkbox"/>
	161	WO03019819	03-06-2003	SAMSUNG ELECTRONICS CO LTD [KR]		<input type="checkbox"/>
	162	WO03030414A1	04-10-2003	WISCONSIN ALUMNI RES FOUND [US]		<input type="checkbox"/>
	163	WO03043262A1	05-22-2003	TELCORDIA TECH INC [US]		<input type="checkbox"/>
	164	WO03067783	08-14-2003	QUALCOMM INC.		<input type="checkbox"/>
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	166	WO03085876	10-16-2003	INTEL CORPORATION.		<input type="checkbox"/>
	167	WO03094384	11-13-2003	QUALCOMM INCORPORATED.		<input type="checkbox"/>
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	169	WO04038954	05-06-2004	QUALCOMM INC [US].		<input type="checkbox"/>

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Sheet	11	of	14	Attorney Docket No: 060542	

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	175	WO04075596	09-02-2004	QUALCOMM INCORPORATED.		<input type="checkbox"/>
	176	WO05043855	05-12-2005	QUALCOMM INCORPORATED,US.		<input type="checkbox"/>
	177	WO06019710	02-23-2006	QUALCOMM INC [US]		<input type="checkbox"/>
	178	WO06044487	04-27-2006	FLARION TECHNOLOGIES, INC.		<input type="checkbox"/>
	179	WO06069300	06-29-2006	QUALCOMM INCORPORATED.		<input type="checkbox"/>
	180	WO06069397	06-29-2006	QUALCOMM INCORPORATED,US.		<input type="checkbox"/>
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	182	WO2003043369	05-22-2003	TOSHIBA KK [JP]		<input type="checkbox"/>
	183	WO2004047354A1	06-03-2004	FRAUNHOFER-GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG E.V.		<input type="checkbox"/>

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Sheet	12	of	14	Attorney Docket No: 060542	

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	184	WO2005015810	02-17-2005	INTEL CORPORATION.		<input type="checkbox"/>
	185	WO2005074184	08-11-2005	QUALCOMM INC [US]		<input type="checkbox"/>
	186	WO2006138581A2	12-28-2006	QUALCOMM INC.		<input type="checkbox"/>
	187	WO9408432A1	04-14-1994	ERICSSON GE MOBILE COMMUNICAT [US]		<input type="checkbox"/>

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	188	BLUM ET AL, "On Optimum MIMO with antenna selection," IEEE International Conference on Communications: Conference Proceedings, vol. 1, April 28, 2002, pp. 386-390.		<input type="checkbox"/>
	189	Catreux, S. et al.: "Simulation results for an interference-limited multiple input multiple output cellular system"., Global Telecommunications Conference, 2000. GLOBECOM '00. IEEE. December 1, 2000. vol. 2, pp. 1094 - 1096 <a href="http://ieeexplore.ieee.org/ie15/7153/19260/00891306.pdf?tp=&amp;isnumber=19260&amp;arnumber=8913063&amp;punumber=7153">http://ieeexplore.ieee.org/ie15/7153/19260/00891306.pdf?tp=&amp;isnumber=19260&amp;arnumber=8913063&amp;punumber=7153</a> .		<input type="checkbox"/>
	190	CHUNG, S. et al.: "Low complexity algorithm for rate and power quantization in extended V-BLAST" VTC FALL 2001. IEEE 54th. Vehicular Technology Conference Proceedings. Atlantic City, NJ, Oct. 7-11, 2001, vol. 1 of 4, pages 910-914, Conf. 54.		<input type="checkbox"/>
	191	EL GAMAL, et al.: "Universal Space-Time Coding," IEEE Transactions on Information Theory, Vol 49, Issue 5, pages 1097-1119, XP011074756, ISSN: 0018-9448, May 2003.		<input type="checkbox"/>
	192	HOCHWALD et al., "Achieving near-capacity on a multiple-antenna channel," IEEE Transactions on Communications, IEEE Service Center, Piscataway, New Jersey, vol.51, no. 3, pp. 389-399 (2003).		<input type="checkbox"/>
	193	KIESSLING ET AL, "Short-term and long-term diagonalization of correlated MIMO channels with adaptive modulation" IEEE International Symposium on Personal, Indoor		<input type="checkbox"/>

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		and Mobile Radio Communications, Vol. 2, September 15, 2002, pp. 593-597.		
	194	KOUSA, M. et al: "ADAPTIVE BINARY CODING FOR DIVERSITY COMMUNICATION SYSTEMS" IEEE International Conference on Personal Wireless Communications Proceedings, pages 80-84, XP000992269, 1997.	<input type="checkbox"/>	
	195	Nokia, "Uplink Considerations for UTRA LTE", 3GPP TSG RAN WG1#40bis, Beijing, CN, R1-050251, 3GPP, April 4, 2005, pp 1-9.	<input type="checkbox"/>	
	196	NTT DoCoMo, "Downlink Multiple Access Scheme for Evolved UTRA", 3GPP R1- 050249, 3GPP, April 4, 2005, pp. 1-8.	<input type="checkbox"/>	
	197	PRASAD, N. et al.: "Analysis of Decision Feedback Detection for MIMO Rayleigh Fading Channels and Optimum Allocation of Transmitter Powers and QAM Constellations," pages 1-10, 39th Annual Conference on Comm. Control and Comput., Monticello, IL October 2001.	<input type="checkbox"/>	
	198	QUALCOMM EUROPE: "Description and link simulations for OFDMA based E-UTRA uplink" 3GPP DRAFT; R1-051100, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. RAN WG1, no. San Diego, USA; 20051004, 4 October 2005 (2005-10-04), pages 1-10, XP050100715 .	<input type="checkbox"/>	
	199	WIDDUP, B. et al., "A highly-parallel VLSI architecture for a list sphere detector," IEEE International Conference, Paris, France, vol. 5, pp.2720-2725 (2004).	<input type="checkbox"/>	
	200	WIESEL, A. et al.: "Efficient implementation of sphere demodulation" SIGNAL PROCESSING ADVANCES IN WIRELESS COMMUNICATIONS, 2003. SPAWC 2003. 4TH IEEE WORKSHOP ON ROME. ITALY 15-18 JUNE 2003, PISCATAWAY, NJ, USA, IEEE, US, 15 JUNE 2003, PAGES 36-40, XP010713463.	<input type="checkbox"/>	

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